G

The JOURNAL of GEOGRAPHY

VOLUME L NOVEMBER, 1951 NUMBER 8

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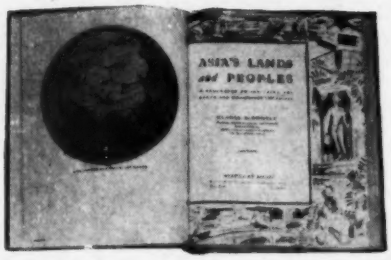

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Dr. Sommers is Assistant Professor of Geography at Michigan State College. His special interest is the geography of Europe with emphasis upon the Scandinavian countries. In 1948 he was awarded a fellowship for study abroad by the American-Scandinavian Foundation and the Social Science Research Council.

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Mrs. Kelley is a second grade teacher in the Robert E. Lee Elementary School in Denton. She holds an AB degree from North Texas State College and a master's degree in Education. She has had experience in elementary teaching both in Texas and Indiana, and has taught at several levels from the second to the sixth grades.

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After having spent three semesters at Harvard University in graduate work in Anthropology, Mrs. Thompson has lived in Alaska since 1945. During the summer of 1950 she used a grant from the Arctic Institute of North America to work on an acculturation problem in Alaska. She combines being a housewife and mother with continued study of different parts of Alaska.

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The subscription price is **$4.00** a year, payable in advance. The price of single copies is 50 cents. Postage prepaid on subscriptions from the United States, Canada, Canal Zone, Republic of Panama, Puerto Rico, Cuba, Virgin Islands of the United States, Dominican Republic, Philippines, Guam, Samoan Islands, Hawaii, Mexico, Costa Rica, Guatemala, Nicaragua, Republic of Honduras, Salvador, Argentina, Bolivia, Brazil, Colombia, Ecuador, Paraguay, Peru, Uruguay, Spain and Spanish Colonies. All other countries in the Postal Union add for postage 27¢ on annual subscriptions (total $4.27), on single copies 3¢ (total 53¢). All subscriptions are payable in United States Dollars.

The JOURNAL is the official organ of the National Council of Geography Teachers and is sent to all members. The annual dues, $4.00, are payable to the JOURNAL OF GEOGRAPHY. Extra postage rates for copies sent to foreign countries should be added to the membership dues. Make all remittances payable to the JOURNAL OF GEOGRAPHY, in postal or express money orders or bank drafts.

Send manuscript and books for notice or review to the *Editor*.
Send orders for back numbers to JOURNAL OF GEOGRAPHY.

Published monthly except June, July and August

PUBLICATION OFFICES: 450-454 AHNAIP STREET, MENASHA, WISCONSIN

Business Correspondence, Membership Dues, and Subscriptions may be sent to Publication office or to

A. J. NYSTROM AND COMPANY
PUBLISHERS, JOURNAL OF GEOGRAPHY
3333 ELSTON AVENUE, CHICAGO 18

Entered as second-class matter January 15, 1919 at the post office of Menasha, Wisconsin under the Act of March 3, 1879.

JOURNAL OF GEOGRAPHY PRIZES TO AUTHORS

Annually two prizes, of $25.00 each, are awarded for outstanding articles published in the JOURNAL in the previous five years. The prizes collectively cover most aspects of geography and geographic education. They honor the author and a person who contributed notably to the success of the JOURNAL. The prize awards are named in honor of the following: Richard E. Dodge, Ray H. Whitbeck, George J. Miller, J. Paul Goode, Almon E. Parkins, Ellsworth Huntington, Isaiah Bowman, and Cora P. Sletten.

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VOLUME L NOVEMBER, 1951 NUMBER 8

MÖRE OG ROMSDAL COUNTY, NORWAY: POPULATION DISTRIBUTION*

LAWRENCE M. SOMMERS
Michigan State College

The distribution of Norway's 3.2 million people reflects the nature of the land and the resources. The large areas of unproductive land—mostly rocky—and forest, which together comprise 96 per cent of the total area of this Scandinavian country, are practically devoid of population.[1] The bulk of the people are concentrated on the remaining small percentage of area classified as arable land and permanent grassland. The large proportion of this more favored land is located near the coast. This, coupled with the fact that the rich resources of the sea offer opportunities for a livelihood, results in a concentration in coastal areas of a major portion of the population. Under such conditions, the average population density figure for Norway of 25 people per square mile becomes a relatively useless statistic.

In general, population densities of Norway decrease from the coast inland and from south to north. Nearly 50 per cent of the inhabitants live in Oslo and the seven surrounding counties of southeastern Norway.[2] Despite regional differences, certain population distribution patterns are repeated in each of the 20 counties of Norway. Some of these patterns representative of the country as a whole are illustrated by Möre og Romsdal County (Fig.1).

* Thanks are due to The American-Scandinavian Foundation and The Social Science Research Council for financial aid for research in Norway during 1948.

[1] A population distribution map for Norway based on the 1930 census can be found in: H. W. Ahlman, "Norge natur och näringsliv," Kooperativa förbundets bokforlag, Stockholm, 1943, p. 265.

[2] Statistik Sentralbyraa, *Folketellingen i Norge 3 Desember 1946*, Vol. I, H. Aschehoug & Co., Oslo 1950. All subsequent figures are based upon this official census publication.

Möre og Romsdal County, located on the highly dissected west coast of Norway between the cities of Trondheim and Bergen, displays Norway's fragmented population distribution. This county contains 182,859 people or nearly six per cent of the total population of Norway. The average density, only slightly higher than the national figure, is 32 persons per square mile. More detailed infor-

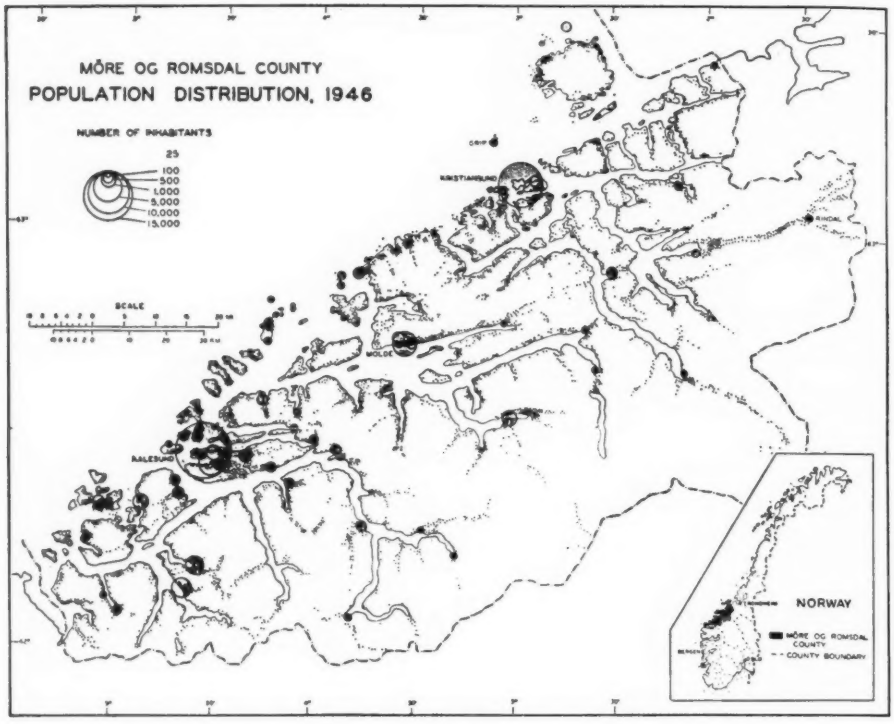

Fig. 1

mation is necessary, however, in order to analyze the actual distribution of people in the county.

The Norwegian census aids in a population distribution analysis by dividing the population into those living in dispersed and agglomerated settlements. Dispersed as defined by the census includes all scattered abodes as well as agglomerated settlements containing less than 20 populated houses or 100 people. Agglomerated refers to all settlements such as towns, suburbs and other closely built up areas containing more than 100 persons. The Norwegians use the term "hussamlinger" or groups of houses, to apply to the closely settled areas which have some urban functions. Using the above

definitions of dispersed and agglomerated settlements, Norway had 50 per cent in each category in 1946. In Möre og Romsdal County, however, 66 per cent of the population lived in dispersed settlements while 34 per cent were located in agglomerated settlements.

The map depicts the distribution of people in Möre og Romsdal County by means of dots and circles. Each dot represents 25 inhabitants. The agglomerated settlements having over 100 inhabitants are shown by the area of proportionally sized circles. Agglomerated settlements having less than 100 inhabitants are shown by the appropriate number of dots. The 1:100,000 series of maps compiled by the Norwegian Geographical Survey showing locations of farms, villages and cities was utilized in plotting the distribution of dots and circles. This information was supplemented by field data for portions of the county.

Concentration of Population Near Water Bodies

Thruout Möre og Romsdal County the majority of the people are located near water bodies—whether near the open sea, the areas protected by the skerry guard, or along the fjords. The thin bands of population extending inland in the fjord valleys are the only exception to this generalization. This population pattern evolved as the rugged interior of the county forced many of the people to look toward the sea and its resources for a livelihood. Thus most of the cities and villages are located on the coast and a large part of the rural population have settled on the narrow fringes of arable land bordering the water bodies. The people have been attracted to these peripheral coastal areas due to ease of access to the fishing banks, the occurrence of marine clay deposits resulting in more agricultural land, and the greater opportunity for employment in commerce, trade and industry (full or part-time). The population density decreases rapidly inland from the sea and fjords as is typical of Norway.

Tho one-seventh of Norway's people live on islands, Möre og Romsdal County has even a much larger proportion of its people inhabiting islands. This county, with one of the most extremely dissected and island-dotted coasts of Norway, has 48 per cent of the total population located on 250 islands. The majority of the people are located on the strandflat fringes of these islands.[3] Grip and

[3] Strandflats are the flat or nearly flat areas adjacent to the coast which represent earlier levels of the sea prior to uplift. In some areas strandflats occur at several different elevations.

several other densely populated tiny rocks are located off the coast in the open sea (Fig. 2). Fortunately, they are located in the midst of rich fishing banks providing them with a means of livelihood. The two largest cities of Aalesund and Kristiansund are located entirely on islands and account for approximately one-third of the county's amazing total of island population.

Location of Agglomerated Settlements

All but one of the 55 agglomerated settlements of Möre og Romsdal County listed in the 1946 census have sea-coast or fjord

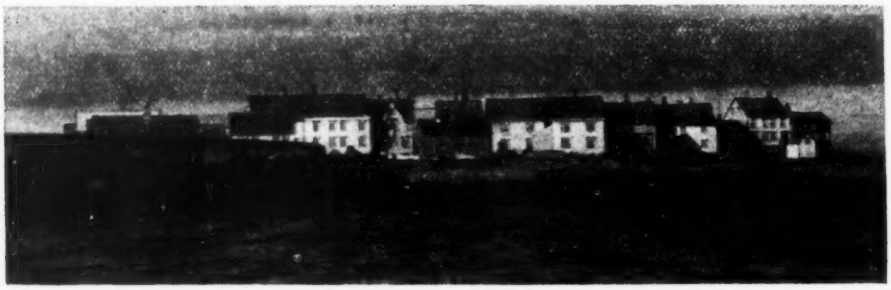

Fig. 2. Grip, a tiny skerry guard island, is located in the open sea about ten miles from Kristiansund. The total population numbering 224 is largely dependent upon fishing. The houses are closely huddled together.

locations. This exception was the small center of Rindal with a population of 216 located in an interior glaciated valley (Fig. 1). As is characteristic of Norway, the larger cities of this county such as Aalesund and Kristiansund have excellent protected harbors and are usually situated along the coast, while the smaller centers are found both on the coast and fjords. More than one-half of the agglomerated settlements are located in the southern one-third of the county reflecting the greater development of fishing, agriculture, trade, and industry in this section.

There is a definite relationship between the coastal agglomerated centers and the excellent fishing grounds located off shore. Many of them are small scattered fishing stations that developed in response to supplying the needs of the fishermen. Numerous small ports serve as bases for fishing operations, for local communication centers, and for industry associated with fish processing. Industries found in these centers include the processing of fresh, frozen, dried, salted, and smoked fish, fish canning, reduction of herring and cod

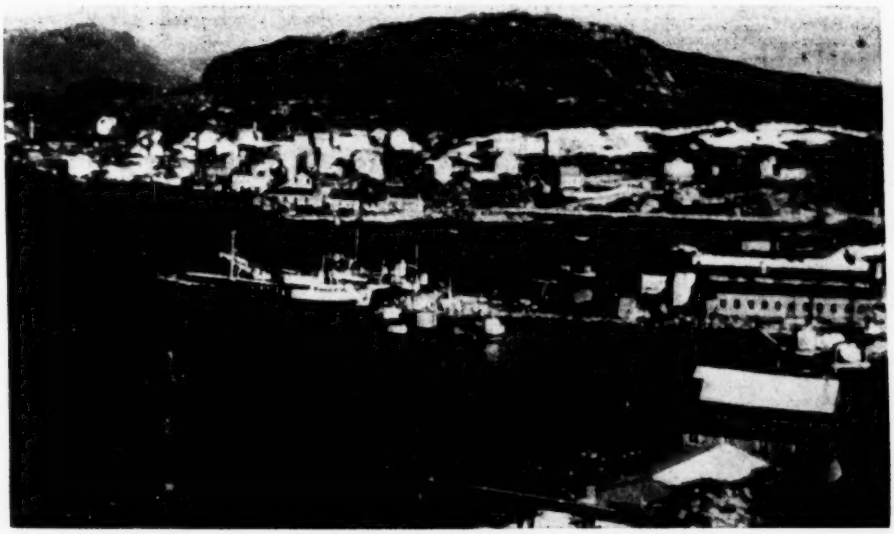

FIG. 3. A view of a portion of Kristiansund and its suburb of Dahle. Note the close relationship of settlement to the water front area.

FIG. 4. A scene on Tresfjord located in central Möre og Romsdal County looking west toward the village of Tresfjord. The picture illustrates a representative settlement pattern found at the heads of fjords. The buildings in the foreground house the small boats and fishing gear of the farmer-fisherman. Note the small farms along the fjord and extending up the slopes for some distance on the opposite shore.

liver oil, fishing gear manufacture, ship building and repair, and marine-motor manufacture. Of the coastal ports, two have grown to considerable size, namely Aalesund, with a population of 18,143 and Kristiansund, with a population of 13,152 in 1946 (Fig. 3). These two cities are the leading fishing, industrial, communication, and trade centers of the county and also are important in the national scene.

FIG. 5. The tiny rural village of Torvik. This village and its surrounding agricultural area present a scene typical of interior fjords of Möre og Romsdal County. A small fish canning factory is located in this fjord port. A few small fishing vessels also are based here.

The agglomerated settlements of the interior areas are situated at the heads of fjords or where smaller lateral valleys join the main fjords with the exception of Rindal as mentioned above (Fig. 4). At such points a limited amount of flat land was available on which villages could be established. Most of them serve as agricultural centers for local areas and as harbors in the fjord transportation system. Some have small-scale industries such as boat building, box and barrel manufacturing, and fish processing (Fig. 5).

The majority of the agglomerated settlements of interior fjord

areas range in size from 100 to 1,000 inhabitants. The only one with over 3,000 inhabitants in 1946 was Molde, the county seat and hub of political activity, which listed 3,774 inhabitants (Fig. 6). Most of those having only slightly over 100 people are merely groups of houses ("hussamlinger"). Industry found in these small settlements usually is of a handicraft nature. A general store provides convenience goods for the local inhabitants.

FIG. 6. Molde, the county seat of Möre og Romsdal County, has an interior fjord location. The main part of the city is located within two blocks of the fjord.

DISTRIBUTION OF DISPERSED SETTLEMENTS

A large proportion of the rural inhabitants of Möre og Romsdal County reside in dispersed settlements in coastal areas. The dots revealing their actual distribution fall into the following patterns: narrow bands along the coast, clusters at the heads of small indentations of the coast and in minor valleys tributary to the coast, fringes around the edges of the numerous islands, and concentrations near the villages and cities. The greater population density of the southwestern portion of the county reflects the more favorable environment of this section for agriculture and fishing—the major occupations of rural inhabitants.

The linear distribution pattern of the rural population of interior districts follows the configuration of the fjords and the alignment of the valleys. Along the fjords and in the glaciated valleys sufficient soil is available for carrying on agriculture, often in combination with fishing and other part-time occupations (Fig. 7). Most farms along the fjord are located on stream built deltas or

clay benches and a few farms cling precariously to clay ledges on the steep slopes. In places where dots do not appear along the fjords, settlement is precluded by the nearly perpendicular nature of the fjord walls. The tentacles of population leading away from the major fjords are valleys thru which land transportation connections are made with eastern and southeastern Norway. The large areas of rugged and often forested land found between the fjords

FIG. 7. Torvikbukt, an arm of Batnfjord, located about eleven miles southeast of Kristiansund. Dispersed farmsteads surrounded by cultivated and pasture land border the fjord. Forests cover many of the higher slopes.

and valleys are practically devoid of population. Population densities in many of these interior areas average less than 10 persons per square mile in contrast to the coastal districts that average over 65 per square mile and reach as high as 1,209 on the islands of the tiny community called Grip.

SUMMARY

The analysis of the population distribution map of Möre og Romsdal County reveals the following significant settlement loca-

tions: the outstanding importance of coastal islands and seaward fringes of the coastal districts; the secondary importance of fjord borders, the tributary valleys of the fjords, and the heads of fjords as well as the major valleys representing continuations inland of fjords or arms of fjords. In all cases there appears to be a close correlation between the location of agglomerated and dispersed settlements and the accessibility to the open sea, the fjords, and the limited quantities of arable land found along the margins of the sea, the fjords and in the glaciated valleys. The pattern of population distribution of Möre og Romsdal County reflects the attracting power of the sea and the repelling influence of the interior—a characteristic of much of the land area of maritime Norway.

A STUDY OF DIRECTION IN THE SECOND GRADE

JEAN SUMMERS KELLEY
Robert E. Lee School, Denton, Texas

Many times the expressions "he went that-a-way," "I live that-a-way," or "let's go that-a-way" are used by children. Usually the listener has no conception of the directional meaning that the child wishes to convey by his spoken words alone. When this was pointed out to a group of second graders, they became anxious to act more mature by learning to use adult expressions for direction.

Discussing a Problem

The discussion began with the teacher asking questions in order to find out where to begin the study. These included:

1. What is direction?
2. What are words and symbols used to tell direction?
3. Where is "up" and "down"?
4. Where do you live from school?

From the answers to these questions an outline was developed on which instruction was based. Since "up" and "down" were the most familiar words, study was begun on the correct interpretation of these words.

The children learned that away from the earth or toward the sky was "up"; and that the ground or toward the center of the earth was "down." Proper everyday expressions, "up in the sky," "up-stairs," "down in the basement," "down the slide," aided in

making the students aware of the geographical connotations of "up" and "down."

When a pupil suggested "up North" and "down South," others realized that they could not point overhead or at their feet. This necessitated an explanation of the cardinal directions. Other questions relating to direction arose. These included "how do I find

Fig. 1

North?" and "what are the 'in-between' directions"? The former was answered in various ways. The most successful means was by driving a stake in the ground and noting that its shadow would be to the North when the sun was highest in the sky (Fig. 1). One little boy also brought a compass that fascinated most of the pupils. They understood that the needle always pointed to the North. The word "in-between" was the key to teaching directions other than the cardinal compass points. This was easily demonstrated by determining the direction in which each pupil lived from school.

Using Directions

For some time the children had been interested in a globe that had been placed in the room. They understood that this was a replica of the earth and had located the storied home of Santa Claus on it at the North Pole. It was then easy to transfer the directions of North and South to the globe (Fig. 2). East and West

Fig. 2

were taught as global directions by helping the student to imagine he stood on the globe facing the North Pole.

The next step was to make use of these directions in their home environment. Fortunately, the children were familiar with the general outline of their home state, Texas, and located it on the globe. It was necessary here for the teacher to point out North and begin instruction in map reading so that the pupils might become cognizant of directions in their own town and home. To do this a

series of maps depicting Texas as a part of North America, of the United States, and of Texas alone, were shown. The class soon recognized that North was always at the top of these projections and found other directions from this orientation.

For most of the students this relation of Texas, map, and globe was a complete abstraction. In order to be meaningful, it was essential that the abstraction be related to those things with which the children were familiar. It was here that they really learned to read maps by creating them. This activity was introduced by having each child fill in a duplicated outline of the school ground with trees, walks, play areas, etc. Then volunteers drew on newsprint a single large diagram from which all could correct their drawings of the school grounds. The teacher suggested that it might be interesting to sketch the route from school to home. Some weird and wonderful diagrams resulted, but this proved not only the most enjoyable of all the activities but also one in which streets, buildings, and directions were depicted and correctly labeled. It was equally important, and for a time puzzling, for the students to find that new directional terms must be used to plot the direction they used when they came from home to school. Then it was but a short step to encourage the pupils to map out the route of a field trip. The trip was an excursion to the nearby city engineers' office to secure a map of the city. From this point progress was rapid in recognizing how the city fit into maps of larger areas.

Correlation

Even tho the learning of directions by this second grade group was not planned in terms of unit organization, it readily lent itself to correlation with many other subject areas. Science and geography were presented in the central theme of the objectives and purposes. However, when the study proved so interesting to the group, it was used as a basis for other work. Spelling and reading vocabulary were enriched thru presentation of many new words upon which the students concentrated because they recognized a need to know them. Writing stories about such topics as "How I Get Home" helped students to not only express themselves, but also in the mechanics of writing. In arithmetic, children became conscious of time as they planned the field trip to the city engineers and as they considered that some used less time going to and from school than others. The study contributed to the social studies as it

was a co-operative group enterprise. Social perspective of their own locality was achieved as each pupil visualized where his fellow students lived.

These seven or eight year olds now know where "that-a-way" is. It is North, South, East, West and all points in-between. In finding out this, they have gained a new and more mature outlook of the world in which they move.

NEED CONTENT BE SACRIFICED?

DOROTHY LANDY
Private Teacher

The question is asked, in the March, 1950 issue of the JOURNAL, "Do you agree that 'geography in the past has suffered because we have had regard to what we think children ought to know when they become adult, and not to what children want to know when they are young?' "

The children in what Drs. Mort and Vincent in *A Look at Our Schools* call the "1900-model" schools studied geography as a separate course at set times. Names of countries and their locations, and lists of cities, products, exports and imports were drilled and memorized. The students' conceptions of foreign countries, and often of states other than the ones in which they lived, depended most often on colors used in political maps. The goal of educators was what was deemed important for children to know when they became adult.

Today, children's needs, interests, and abilities are considered. Most subject matter is integrated, so that there is little clear-cut differentiation between geography and the other divisions of Social Science. Something of geography is also incorporated with arithmetic, spelling, language, art, music, and science. Multiple texts are used. The children's own questions are used as bases for research.

Considerations of abilities determine who pastes pictures; who makes sand tables, model farms, cities, harbors, and airports; and who makes relief maps.

The youngsters learn the workings of municipal government, dairies, post offices, factories, and railroad stations on excursions because that is what they want to know. As the possessions of the

United States, the neighboring countries, and the countries in the western and eastern hemispheres are introduced, the children learn about the language, arts, dress, foods, toys, occupations, and government of the various peoples because that, too, is what they want to know.

It is just possible that geography is lost somewhere in the shuffle. Certainly this subject is a lot more fun today than it was in the "1900-model" schools. There are few, if any, lists and drills. Concepts have supplanted facts. What are some of the results?

Modern youngsters have a lot of know-how. The schools are developing the children's mechanical and social abilities, as well as much that was taken care of by home, church, office, factory, and farm. But, since the duration of the school day has not lengthened, subjects that were formerly learned in school are being circumfused almost to the point of disappearance.

High school graduates tend to be charming and self-reliant, cognizant of what is going on in the world, and unafraid to express opinions on present-day problems. Having gathered news for and edited their own newspapers, and conducted courts and miniature United Nations sessions, the teen-agers are aware of the power of words. "Both" sides of every question are evaluated.

Is this enough? In order to understand the attitudes and demands of the United Nations, isn't it necessary to know the location, the physical, and something of the economic geography of these countries, as well as the fundamental facts of history, government, industries, and culture?

Geographic determinism is outmoded, but there are *some* geographic factors which are important in the understanding of any country and its people. Man does, after all, live in his environment, and his total environment, including land surface, coastline, the presence or absence of water, types of soils, and climatic conditions, does have an effect on his needs. If students have little or no basic geographic background, their knowledge and understanding of any country must be inadequate.

Those students who "take" geography with good grace in college are often amazed and delighted with the scope and interest of the subject. In view of all the groundwork that teachers of undergraduates have to do, it should perhaps not be surprising that geographic principles can often only be used by graduates—the students who have finally absorbed fundamentals.

Evidently something is wrong. When geography was taught with the future in mind, children learned, but didn't like it. Now, geography is being taught with the present in mind, and the children like it, but seem to learn a whole lot of something else.

Surely we can't quarrel with the progress education as a whole has made. But perhaps we ought not to throw away all the facts and figures together with the old-fashioned methods. Can there not be a further integration—of *what* it was thought important to teach in the past with *how* it is known to teach today?

PENNSYLVANIA'S GEOGRAPHY COURSE OF STUDY—GRADES 7 TO 12

MARY VIOLA PHILLIPS
New Kensington High School

A program of curriculum revision is being carried on in the secondary schools of Pennsylvania. This program, designed to achieve an effective secondary school curriculum for citizenship and life adjustment education, is under the guidance of the Department of Public Instruction and the cooperation of secondary school teachers and administrators of the state. The program is characterized by wide participation in the preparation and tryout of materials for new course of study manuals. State curriculum committees have been organized to produce course of study manuals for teachers in the several subject areas—English, social studies, science, mathematics, modern foreign languages, and geography.

The geography committee has completed and submitted for publication a Course of Study for Geography (Interim Report) that is unique in several ways. 1. It will be the first geography course of study to be published in our state that has included courses in geography for grades 7 to 12 inclusive. 2. The content of the course of study is not the result of the thinking of armchair theorists but the actual classroom practices of teachers and students from our secondary schools. We have used material from all parts of the state for the content, for illustrative materials, and as data for making decisions as to method, scope and sequence. Therefore the building of this manual was in a very real sense a cooperative enterprise. 3. And this is the first time that there has been a shift from the subject basis of planning to a program organized in

terms of the discovered needs of adolescent boys and girls in our democratic society.

Philosophy

The geography committee has had as its underlying philosophy the belief that the purpose of the secondary school is to promote democratic values. To them democracy means a respect for human personality, experience in living and working together for the common good, and faith in the method of intelligence in all areas of living. The committee recognized that pupils have needs, concerns, problems, and characteristics, some of which are peculiar to individuals, some of which are determined by age and maturity level, and some by the pressure of the society of which they are a part. It also recognized that education to be effective must take cognizance of the needs and structure of the society in which it operates.

Common and Essential Needs That All Youth Have in a Democratic Society[1]

The present study shows a definite trend toward organization around the actual problems, needs, and concerns of boys and girls and their adult life problems in which their maturity permits them to be interested. The following ten imperative needs as developed by the National Association of Secondary School Principals and on Havighurst's development tasks have served as the springboard for our discussion and study:

1. To develop saleable skills and those understandings and attitudes that make the worker an intelligent and productive participant in economic life. To this end, most youth need supervised work experience as well as education in the skills and knowledge of their occupations.
2. To develop and maintain good health and physical fitness.
3. To understand the rights and duties of the citizen of a democratic society, and to be diligent and competent in the performance of their obligations as members of the community and citizens of the state and nation.
4. To understand the significance of the family for the individual and society and the conditions conducive to successful family life.
5. To know how to purchase and use goods and services intelligently, understanding both the values received by the consumer and the economic consequences of their acts.
6. To understand the methods of science, the influence of science on human life, and the main scientific facts concerning the nature of the world and of man.
7. To develop their capacities to appreciate beauty, in literature, art, music and nature.
8. To be able to use their leisure time well and to budget it wisely, balancing activities that yield satisfactions to the individual with those that are socially useful.

[1] Adapted from *Planning for American Youth*. Published in Bulletin 145, March 1947. Published by the National Association of Secondary School Principals, 1201 Sixteenth Street, N.W., Washington 6, D.C.

9. To develop respect for other persons, to grow in their insight into ethical values and principles, and to be able to live and work cooperatively with others.
10. To grow in their ability to think rationally, to express their thoughts clearly, and to read and listen with understanding.

Each need should be analyzed for the behaviors which we hope to help youth develop.

The determination of the imperative needs of youth was based upon careful research. Thru cooperative planning, the educational program should meet these needs adequately. The geography course of study represents the committee's response to a recognized need for a program designed to take into account the developmental needs of all adolescent boys and girls. When the content and method of geography are examined it is found that many of the student's normal activities, problems, and needs, have much in common with the purposes of geography in modern society. Since geography makes use of the natural dynamic drives and potentialities of youth the geography class seems a particularly appropriate place to deal with them at the secondary level. The course of study considers at great length the needs of secondary youth, ways of discovering and meeting these needs, and the use of the unit organization as a practical device around which to organize the geography program to meet such needs.

What Does the Course of Study Contain?

The course of study has been prepared to direct teachers and school administrators in improving and expanding the program of geography education in the secondary schools of our state. It represents a restudy of educational opportunities and objectives in terms of present day needs and responsibilities of youth and society. It considers in specific terms what the study of geography can contribute to life adjustment problems of youth and attempts to provide perspective and to suggest desirable changes in curriculum development. It offers practical assistance in attacking the problems of instruction and other classroom method in terms of life situations, emphasizing some of the desirable procedures and activities in the teaching of geography. It provides suggestions relative to content, pupil needs, learning activities, means of comprehensive evaluation and various desirable techniques and specific illustrations helpful in developing units of work. The limited time and space allotted to the manual necessitated a decision whereby preference has been given to discussion of learning

teaching procedures and guidance rather than an analysis of organized geography. It has been the aim to present the material from the viewpoint of the classroom teacher and to show how the daily activities within the geography classroom can be made to contribute to the ultimate goals of education in a democracy. Accordingly, it is truly functional, meeting the demands for the consideration of the immediate needs of young citizens.

The material for our geography course of study has been organized largely on the unit basis. The committee believed that an approach particularly involving consideration of the needs and concerns of youth and community problems was possible only by planning an attack which was outside the usual framework of subject organization. Therefore, problems and units for all grades 7 thru 12 have been provided in order to secure adequate attention to the newer areas introduced for the first time thru the course of study, to illustrate various methods of developing units, and to promote the use of unit teaching.

The units for all grades have been so organized as to require the use of the problem method. Extended and inclusive studies of the relative effectiveness of the topical, chronological, and problem methods have been made, and the findings justify a more extensive use of the problem approach in instruction. The problem approach to geographic studies provides teachers with a flexible teaching procedure which can be used effectively as a point of departure for elaboration of the meaning of democracy or for action based on thought. The teachers have found that when problems are utilized they not only furnish intrinsic motivation for vital study but they bring into lively and personal focus principles in geography which might otherwise remain to the student high order abstractions concerning the world. However teachers may utilize the problem approach rather than follow it consistently.

The units show that instruction is being organized around the consideration of life's problems rather than around subject matter alone. They recognize the needs and concerns of people—today, and to a limited extent tomorrow—in regions all over the world. They recognize the demands of modern life upon youth and adults, their responsibilities as well as privileges. The units also show that there has been a definite shift of emphasis from the much talking teacher dominated class recitation to a teacher-pupil planned and executed learning situation.

The units are offered as patterns upon which teachers can base units and activities applicable to their own situations. It is not intended that the units be used as a set guide because they have been designed to meet the problems and needs of boys and girls in specific localities. Each community differs greatly in respect to the needs of students, educational facilities, and community resources; therefore each school will need to make its own local modifications. Altho each school makes its own modifications certain patterns and objectives will remain common to all schools. Adaptations to satisfy particular local needs are important for effective learning.

The importance of content was clearly recognized by the teachers and pupils in all units. The content selected was considered by the teacher and pupils to be necessary to an adequate solution of the problem under consideration. Therefore the content was looked upon by the pupils not as something to be learned in an external sense, but as something immediately useful to them.

In all units teachers have given much thought to the problem of correlation. Not only have the unit activities been grouped under comprehensive captions, but teachers and students have shown how they selected pertinent data from other fields of knowledge that have elements of value in the geographic theme or unit. Geography offers many opportunities for cooperation that will be helpful in geography classes and in phases of other subjects.

Suggested Sequence of Areas[2]

In developing the sequence of areas for the course of study an attempt was made to articulate the areas with those offered in the Elementary Course of Study (Interim Report) Bulletin 233B. Extensive surveys were also made by the nine district (PSEA Convention District) committee chairmen, by the Pennsylvania State Council of Geography Teachers, and by the Department of Public Instruction to find out what courses in geography were being taught at the various grade levels—7 to 12 inclusive. As a result of these surveys the following sequence of areas was developed:

Grade VII—How Can We Get Along With Other People. (Europe and Asia—also Africa, Australia, and Islands of the Pacific if not previously taught)

Grade VIII—How Is Man Influenced by Geographic Conditions. (Geography of United States and World Relations—United States as springboard to study of world)

[2] Secondary School Manual, Bulletin 241, Edition 1950, p. 51. Department of Public Instruction, Harrisburg, Pa.

Grade IX—How Have Geographic Conditions Helped Make Pennsylvania a Keystone State. (Geography of Pennsylvania) Where desirable Pennsylvania may be taught in its relation to the United States and the rest of the world.

Grade X—How Can We Use and Conserve Our Natural and Economic Resources. (Economic or Commercial Geography)

Grade XI—How Can We More Fully Appreciate Our Country and Its Neighbors. (Geography of the Americas—Neighbors North and South) Other world neighbors may be taught at this level.

Grade XII—How Does Geography Contribute to International Peace, World or Global. (World Geography, Strategic Areas, Political, Economic, and Natural Environmental Problem Regions, selection is flexible each year, depending upon current situations and needs.)

VALUABLE EXPERIENCE

Curriculum improvement to meet the needs of youth was a learning experience for all who participated in it. 1. It has afforded workshop experiences to many geography teachers within our state. 2. It has been the means of awakening teachers to the possibilities of introducing better techniques in selecting, presenting, and appraising subject matter in the light of its contributions to the imperative needs of all youth. 3. It has encouraged a more democratic administration of classroom and school affairs.

A review of the extensive data gathered from all parts of the state leaves one with the feeling that something vital has taken place in the experience of a large majority of teachers. There is evidence of a strong tide of intelligent purpose and wholesome enthusiasm that affects most teachers deeply.

LONG-RANGE PROGRAM

Programs directed toward the particular needs of youth and society are trends which necessitate the acquisition of much additional information on the part of teachers. It is difficult for teachers who have been trained as purveyors of subject matter to change overnight from a subject centered program to one designed to serve the concerns, needs, and problems of all youth as they live in our democracy. Because of the varying stages of knowledge and experiences with educational programs geared to the needs of youth the committee has recommended that each teacher should start from where he is recognizing his own geographic and other understandings and sense of values that give him what security he possesses therein. Then with the manual as a guide he may launch forth into broader fields and deeper waters.

A continuing study of the geography program is needed to de-

termine its effectiveness and enhance its breadth and depth. The teacher committees which have been organized thruout the state to prepare this interim report plan to continue to function as study groups and to expand their investigations. The manual is to be tried out in our secondary schools of Pennsylvania for evaluation and recommendation. After significant studies, teachers will make recommendations in the light of their findings to be published in our future manual.

Our course of study represents an idea, a hope, and an attempt at betterment. If it fosters intensive study, experimentation, and self-evaluation which will multiply promising practices and create more good ways of learning, the manual will have served its purpose.

To What Audience Is Our Course of Study Addressed?

Altho the geography course of study will find its widest use among secondary teachers of geography, it has much material of direct interest to elementary school teachers and parts that may be of service to college instructors. It has become conclusively evident that every teacher should be familiar with learning-teaching situations at each educational level. It is the hope of the committee that the administrators who read our course of study may be encouraged to provide our secondary youth with more opportunities for learning geography. Education has an important responsibility in the achievement of a better world and in the fulfillment of this responsibility the geography teacher has a significant role.

GEOGRAPHY IN THE HIGH SCHOOLS OF MICHIGAN

Ruby M. Junge
Michigan State College

In the past decade, the literature of the teaching of the social studies has displayed rather serious concern regarding the generally mediocre geographical competence of American high school graduates. Ample evidence has been produced to indicate that high school graduates, by and large, possess little knowledge about the world in which they live and much of that which they do possess is superficial and inadequate to the task of thinking about and form-

ing opinions on problems which are the concern of citizens of a democracy.

In an effort to solve this problem numerous surveys have been made which indicate the opportunities afforded high school pupils for the development of geographic understanding. Two surveys made in the last fifteen years by the United States Office of Education indicate that most high school pupils have little opportunity to obtain geographical knowledge about the world and its relationships since the majority of high schools offer no geography and those which do make provision for its instruction typically offer one semester, this on an elective basis and limited to one aspect of geography, generally the economic. In 1947, geography enrolled approximately 4.3 per cent of the pupils in grades nine thru twelve.* This was brought out in the most recent survey of the United States Office of Education.

Surveys in several states in the last ten years indicate the existence of similar conditions to those found for the nation as a whole. The present study was undertaken to assist in clarifying the picture as it relates to individual states and to acquaint the educators of Michigan with the problem as it exists within the state.

To obtain the information desired on the status of high school geography, questionnaires were sent to all of the high schools of the state, 549 in all. Returns were received from 337 or 61.38 per cent of the schools. Twenty-seven replies were invalidated because of failure to provide all of the data called for and thus had to be eliminated from the study. However, it was felt that enough returns were received to provide a representative sampling of the state's high schools.

The data sought related to enrollments in geography for grades nine thru twelve for the school year 1949-1950. Information was gathered on total high school enrollment, names of geography courses taught, number of pupils enrolled in each course, length of course (one or two semesters), and basis for pupil enrollment (elective or required in nature).

Course Offerings

The data revealed that in 1949-1950 approximately 43.02 per cent of the responding schools offered geography in some form.

* Anderson, Howard R. "Offerings and Registrations in the Social Studies," *Social Education*, XIV (February, 1950) p. 74.

This represented 145 of the 310 schools replying to the questionnaire. One hundred sixty-five made no provision for geographic instruction.

Table 1 shows that geography was offered under a wide variety of titles and names. Of the 145 schools offering geography, 65 or 44.8 per cent were teaching the economic aspect. Economic geography, however, appears to receive even greater emphasis

TABLE I

COURSES TAUGHT

Courses	Number of Schools
Economic Geography	34
Commercial Geography	31
Economic and Physical Geography	28
World or Global Geography	17
Geography	14
Physical Geography	9
Geography Fused with History	4
Political and Physical Geography	3
Political Geography	1
Human Geography	1
Latin American Geography	1
Economic, Commercial, Physical Geography	1
Economic, Physical, Political Geography	1
	145

TABLE 2

LENGTH OF COURSES

Semesters	Number of Schools
One	74
Two	71
	145

when one notes that 28 schools were teaching a course known as economic and physical geography. World or Global geography which represented the next largest offering was taught in but 11.7 per cent of the schools.

The exact nature of some of these offerings is rather difficult to determine. Since the questionnaire named certain courses and left space for the respondents to write in others, the author is hesitant to classify them other than under the titles assigned by the respondent. Nevertheless, Table 1 does show certain very definite tendencies in offerings.

Table 2 reveals that the number of schools offering geography is

TABLE 3

BASIS FOR ENROLLMENT

Basis	Number of Schools
Elective	130
Required	11
Elective and Required	4
	145

quite evenly divided in providing geography in one or two semester courses. However, slightly over half favor the one-semester course.

Table 3 shows that the majority of schools offer geography on an elective basis. In fact, 89.64 per cent of the schools make geography an elective in the curriculum. Four schools offered courses which were required for some pupils and elective for others.

Briefly summarizing the course offerings, one may say that in Michigan the economic aspects of geography receive the most attention and that the typical course is elective with slightly more than half of the schools providing one semester of instruction.

Pupil Enrollments in Geography

Data on the pupil enrollments in each of the courses offered is presented in Table 4. One notes that 5,580 or 56.4 per cent of those enrolled in geography are taking a two-semester course. The table also shows that the vast majority of pupils who were registered

TABLE 4

PUPIL ENROLLMENTS IN GEOGRAPHY

Courses	Semesters		Elec.	Req.	Elec., Req.	Total	Per Cent Enrollment
	One	Two					
Economic	994	337	1,182	189	—	1,371	13.82
Commercial	1,701	660	2,049	95	217	2,361	23.81
Econ. & Phys.	240	667	775	132	—	907	09.15
World	299	3,305	3,604	—	—	3,604	36.35
Geography	311	397	598	110	—	708	07.05
Physical	302	129	377	—	54	431	04.35
Geog. (fused)	167	—	97	70	—	167	01.67
Pol. Phys.	140	27	167	—	—	167	01.67
Political	23	—	23	—	—	23	00.23
Human	23	—	23	—	—	23	00.23
Latin Am.	29	—	29	—	—	29	00.29
Econ., Comm., Phys.	105	—	105	—	—	105	01.05
Econ., Phys., Pol.	—	18	18	—	—	18	00.18
Total	4,334	5,580	9,047	596	271	9,914	99.85

in geography classes were there on an elective basis, approximately 90 per cent being so enrolled. Required courses enroll but 6 per cent of the pupils.

Considering the enrollments in the various geography courses, Table 4 reveals that the single course having the heaviest registration is world geography which accounts for 36.35 per cent of the enrollments. However, the economic aspects of geography, when economic and commercial geography registrations are considered together account for a slightly larger number of enrollments, 37.63 per cent being registered in these courses. Thus, it is seen that economic, commercial, and world geography enroll almost three-fourths of the pupils taking geography in the state of Michigan in the year 1949-1950.

Summary

In summary one may say that the data indicates that Michigan high schools are, in general, neglecting to provide geographic instruction for their pupils. Only 43 per cent of the responding 310 schools included such instruction in their curricula. Further evidence of neglect is noted in the fact that but 9,914 pupils out of a total school population of 149,629 in responding schools were enrolled in geography courses. This represents but 6.62 per cent of the total group involved in the study. Of the total school population 3.7 per cent were taking a full year of geography and an infinitesimal 0.4 per cent were in the courses on a required basis.

It is thus readily apparent that the status of geography in Michigan high schools is not significantly different from that for the whole nation. If the situation is to be improved, programs must be developed which will give every high school pupil an opportunity to become acquainted with the world environment and its relationships.

The seriousness of the situation is obvious when one considers that many of our most critical problems are intricately rooted in geography and that lack of geographic information precludes anything like intelligent thought and action on the part of the ordinary citizen. Neither can we console ourselves with the thought that geographic understandings have been adequately developed by the time the pupil enters high school. There is evidence to indicate that many of the geographic knowledges and understandings required of adult citizens are too complex and difficult to be mastered by the elementary school child. Since most Americans do not attend

college, the high schools must assume the responsibility of educating pupils in geographic thinking or fail in their duty to provide a citizenry sufficiently enlightened to enable the nation to act wisely and well.

U.S. COLLEGE STUDENTS "FLUNK" IN KNOWLEDGE OF GEOGRAPHY*

BENJAMIN FINE

American college students know shockingly little about the geography of this country. They know even less about the world. American or world geography is a forgotten subject in our institutions of higher learning.

These conclusions are based on a nation-wide survey just completed by *The New York Times*. A total of 4,752 students—2,308 upperclassmen and 2,444 freshmen—in 42 colleges and universities in all sections of the country were covered by the study.

The students answered a geography test, prepared by *The Times* under the direction of Dr. Samuel Van Valkenburg, director of the Graduate School of Geography at Clark University, Worcester, Massachusetts. A nationally known authority in his field, Dr. Valkenburg checked the questions with members of the National Council of Geography Teachers.

Last December *The Times* conducted a study that showed less than 5 per cent of the nation's college students were taking even one geography course. Some educators held that geography was not needed on the college level, asserting that the high schools did an adequate job.

The lack of knowledge of even fundamental aspects of American life is appalling, the present survey shows. An analysis of the thirty-two questions asked in the test indicates that both world and American geography have been bypassed by the vast majority of our students. The amount of misinformation is unbelievably large. It would seem almost impossible for anyone who has gone thru high school and in many instances are about to receive their college

* Reprinted from *The New York Times*, June 11, 1951, by permission of Mr. Fine and *The New York Times*. Mr. Fine's first article entitled "Geography Almost Ignored in Colleges, Survey Shows" appeared in the April, 1951 issue of the JOURNAL OF GEOGRAPHY.

diplomas to have such vast misconceptions of what the United States looks like.

For example, less than half the college students know even the approximate population of the United States. The upperclassmen were slightly better on this question than are the freshmen—only 43 per cent of the college freshmen knew the approximate population, while 49 per cent of the upperclassmen had the right answers.

But the wrong answers! Oddly enough, it was either as tiny as 1,000,000 population or as stupendous as 20 billion! Several hundred said the population in 1950 was between 5,000,000 and 10,000,000. And on the other extreme, more than 300 students (freshmen and upperclassmen) thought it was 500,000,000 or more. Many placed it in the billions.

Perhaps it is not too important for a college student or any other citizen of the land to know that our population is approximately 150,000,000. But the wild guesses made by the college men and women indicate that there is a serious deficiency in their education.

Only one out of every four students knew even the approximate population of the world. Here the range was almost too fantastic to believe. Many thought the world had 100,000,000 or fewer people. Others listed it as above 200 billion. They weren't even close. Similar appalling misstatements were found concerning the Soviet Union or Great Britain.

Because Canada is our next-door neighbor, it would seem as tho the college students would know something about its size. Well, they don't. Ninety-eight per cent of the students reached in *The Times* study—and the sampling represents a good cross-section of the 2,300,000 college students in the nation—have no notion of the population of Canada. Several thousand said it was in the neighborhood of 100,000,000. And on the other extreme, hundreds placed it at less than 1,000,000.

Only 18 of the 4,750—they were all upperclassmen—could list and give the approximate population of the five largest cities in the United States. Almost every city, from El Paso, Texas, to Portland, Maine, was selected as the "largest." As for population, they were out of the way by huge amounts—many listed New York City as having a population of more than 30,000,000, while others thought it had something in the neighborhood of 500,000.

In almost every phase of geography the misinformation came to

the front. The students just do not know what the United States looks like on a map, or otherwise. Only 17 per cent could name the states thru which one would pass in traveling by the most direct route between Minneapolis and Seattle. Some students listed Georgia, Mississippi and other far-removed states.

Only 5 per cent of the students could list the states that border on the Atlantic Coast. They named many inland states, even going west of the Mississippi.

Similarly only 4.5 per cent of the college students could list the states that border the Great Lakes. However, 46 per cent were able to name the lakes. Most knew that Alaska and Hawaii were the two territories that have been considered for the statehood. However, some listed Canada and Puerto Rico as the candidates.

The question of time appears to bother many students. About 60 per cent knew that when it was noon in New York it was 9 A.M. in San Francisco. But only 12 per cent knew that it would be 5 P.M. in London. One thought that when it was noon in New York it was 3 P.M. in Chicago, 5 P.M. in Denver and midnight in San Francisco. Another said that "when it is noon in New York it is the next day in London."

Altho we border on the world's largest oceans, few students knew it. Only 25.7 per cent could name the four largest oceans of the world.

Slightly more than half knew what latitude or longitude are, and how they are used. The definitions for "delta," "isthmus" or "vernal equinox" likewise were astonishingly off-base. Many said that a delta was a Greek letter, or part of a college fraternity. "The delta is found in Egypt," said a freshman. One senior defined altitude this way: "It's the amount of humidity according to the lowness of the country."

To an upperclassman an isthmus is "land with hot water on two sides." To another the vernal equinox is "a great circle directly overhead."

Despite the role that this country is now taking in world leadership, the college students know very little about the world beyond their own borders. For example, only seven out of the 4,752 students—and all were upperclassmen—could name the countries that border Yugoslavia. Most of the others simply left blank spaces. Few could even name one country that touched upon Yugoslavia; others named such nations as Belgium, Egypt, Manchuria or Portugal. One student even named Canada!

GEOGRAPHY SURVEY AMONG COLLEGE STUDENTS

The following table shows result of survey made in forty-two American colleges and universities, covering a total of 4,752 students (2,308 upperclassmen and 2,444 freshmen):

Question	*Correct Answer*	*% Right— Fresh-men*	*Upper Class-men*	*All Stu-dents*
1. *What is the approximate 1950 population of the United States?*	150,000,000	43.2	49.4	46.2
2. *Name the two largest states in area*	Texas, California	64.8	59.6	62.3
Name the largest state in population	New York	91.7	92.5	92.1
3. *Name the two smallest states in area*	Rhode Island, Delaware	41.7	42.4	42.0
Name the smallest state in population	Nevada	42.2	46.3	44.1
4. *In what states will you find the following:*				
1. Coulee Dam	Washington	28.6	33.3	30.8
2. Grand Canyon	Arizona	39.2	38.5	38.8
3. Soo Canal	Michigan	19.9	31.0	25.3
4. Oak Ridge	Tennessee	83.3	89.1	86.1
5. Golden Gate	California	96.2	98.1	97.1
6. Rockefeller Center	New York	92.8	97.2	94.9
5. *Name the states thru which you would pass in traveling by automobile by the most direct route between Minneapolis and Seattle*	Minnesota, North Dakota (South Dakota is also acceptable), Montana, Idaho, Washington	15.0	19.8	17.3
6. *List and give the approximate population of the five largest cities in the United States*	New York—7.8 million Chicago—3.6 million Los Angeles—2 million Philadelphia—2 million Detroit—1.8 million	—	.8	.4
7. *List the states of the United States that border the Atlantic Coast*	Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Florida	4.2	6.5	5.3
List the states that border the Pacific Coast	Washington, Oregon, California	76.9	81.7	79.2

Question	Correct Answer	% Right — Freshmen	% Right — Upper Classmen	% Right — All Students
8. *When it is noon in New York, what time is it in:*				
1. Chicago	11 A.M.	66.3	71.9	69.3
2. Denver	10 A.M.	60.2	67.7	63.8
3. San Francisco	9 A.M.	57.2	64.6	60.8
4. London	5 P.M.	12.9	11.7	12.3
9. *Name two territories which have been considered for new states*	Alaska, Hawaii	82.6	85.7	84.1
10. *What does "D. C." stand for after the word "Washington"?*	District of Columbia	95.8	98.4	97.0
11. *Name the Great Lakes*	Superior, Michigan, Erie, Ontario, Huron	40.9	52.0	46.2
12. *Which states border the Great Lakes?*	New York, Pennsylvania, Ohio, Indiana, Michigan, Illinois, Wisconsin, Minnesota	3.6	5.5	4.5
13. *What do you think the average January temperature in Fahrenheit is for the following cities?*				
1. Miami	67°	5.1	10.4	7.6
2. New York	30°	15.3	19.8	17.4
3. Minneapolis	12°	6.4	8.6	7.4
4. Los Angeles	54°	3.4	1.6	2.5
14. *Name four of the seven leading imports (in value) of the United States*	Rubber, Coffee, Newsprint Paper, Sugar, Unmanufactured Wool, Furs, Copper, Raw Hides, Skins, etc.	.9	2.3	1.5
15. *List in their order of size, the four oceans of the world*	Pacific, Atlantic, Indian, Arctic	24.8	26.6	25.7
16. *What is the effect of altitude upon temperature?*	Temperature decreases (3° per 1,000 feet)	84.1	84.9	84.5
17. *In the ocean there are both warm and cold currents. In which general direction do the cold currents flow?*	Toward the Equator	9.3	11.9	10.5
18. *How many miles approximately are covered by one degree of latitude?*	70 miles	13.1	19.0	16.0

Question	Correct Answer	% Right — Freshmen	% Right — Upper Classmen	% Right — All Students
19. *Define each of the following terms in one sentence of 25 words or less:*				
1. Delta	Area between the distributaries at mouth of a river	60.2	65.4	62.7
2. Isthmus	Narrow zone of land between two bodies of water	48.5	52.1	50.3
3. Latitude	Distance from the equator, expressed in degrees	48.9	58.4	53.5
4. Longitude	Distance in degrees from the meridian of Greenwich which is a line from pole to pole thru that town	48.1	60.7	54.2
5. Altitude	Elevation above sea level generally expressed in number of feet	45.3	51.1	48.1
6. Vernal Equinox	22d of March—date of equal length of day and night	25.9	30.0	27.9
20. *How large, approximately, is:*				
1. the worlds population?	2.3 billion	22.3	28.7	25.4
2. population of the Soviet Union?	200 million	15.9	19.3	17.5
3. population of Great Britain?	50 million	8.7	9.1	8.9
4. population of Brazil?	50 million	7.0	4.1	6.0
5. population of Canada?	13½ million	1.9	2.8	2.3
21. *In what countries are the following cities?*				
1. Belgrade	Yugoslavia	34.1	40.3	37.1
2. Lisbon	Portugal	54.6	70.8	62.4
3. Dublin	Ireland (Eire)	78.2	86.7	82.3
4. Budapest	Hungary	57.6	65.6	61.4
5. Nanking	China	92.0	97.7	94.7
6. Manila	Philippines	80.7	86.5	83.5
7. Munich	Germany	78.8	85.6	82.1
8. Lima	Peru	74.2	89.1	81.4
9. Vladivostok	U.S.S.R.	83.1	89.9	86.4
10. Capetown	Union of South Africa	68.2	76.1	72.0
22. *What three European countries have colonies in the Caribbean area?*	France, Great Britain, Netherlands	39.0	40.8	39.8

Question	Correct Answer	% Right: Freshmen	% Right: Upper Classmen	% Right: All Students
23. *Name the South American republics*	Colombia, Ecuador, Peru, Bolivia, Chile, Argentina, Uruguay, Paraguay, Brazil, Venezuela	7.8	10.6	9.2
24. *Name the two countries in the Americas that are larger than the United States in area*	Canada, Brazil	62.9	70.9	66.8
25. *What continent leads in the production of uranium ore?*	Africa	14.6	14.1	14.4
26. *The following names are associated with one definite product. Name the product.*				
1. Brazil	Coffee	75.4	80.0	77.6
2. Ruhr	Steel or Iron	42.4	49.8	46.0
3. Lancashire	Cotton Manufacturings	3.6	5.0	4.3
4. Honduras—Panama	Bananas	20.1	25.8	22.9
5. Gold Coast—Ecuador	Cacao	3.8	4.2	4.0
6. Cuba	Sugar	63.1	70.9	66.9
7. Malaya—Bolivia	Tin	24.2	32.5	28.2
27. *Name the countries that border Yugoslavia*	Albania, Greece, Bulgaria, Rumania, Hungary, Austria, Italy, Free City of Trieste	—	.3	.2
28. *Name three satellite countries of the U.S.S.R. in Europe*	Poland, Czechoslovakia, Hungary, Rumania, Bulgaria, Albania	37.3	46.6	41.8
29. *In what countries are the following rivers?*				
1. Seine	France	71.0	73.4	72.1
2. Amazon	Brazil	76.3	78.7	77.5
3. Ob	U.S.S.R.	28.6	31.0	29.8
4. Nile	Egypt (and Anglo-Egyptian Sudan, also Uganda)	86.7	91.2	88.9
5. Indus	Pakistan	1.1	.8	.9
30. *What country in the Southern Hemisphere competes with Canada and the United States in export of wheat?*	Argentina	59.1	71.9	65.3

Question	Correct Answer	% Right — Fresh-men	Upper Class-men	All Stu-dents
31. *On the world outline map locate the following (put number in approximate location):*				
1. Korea		58.3	60.1	59.4
2. Argentina		73.1	72.6	72.8
3. Ceylon		34.5	40.8	37.8
4. Tibet		30.7	36.9	33.7
5. Finland		48.5	53.7	51.0
6. Ukraine		22.0	34.1	27.8
7. Pakistan		35.2	35.9	35.5
8. Albania		34.3	42.9	38.8
9. Manchuria		50.9	52.0	51.6
10. France		83.5	84.7	84.1
32. *On map of the United States locate by writing the number of the following:*				
1. Rio Grand River		79.7	77.1	78.4
2. Columbia River		47.5	69.3	58.0
3. Hudson River		76.1	83.8	79.8
4. Ohio River		71.6	81.5	76.4
5. Mississippi River		91.7	93.2	92.4
6. St. Louis		27.8	32.5	30.0
7. Rocky Mountains		32.2	40.8	36.3
8. Boston		57.8	58.3	58.1
9. New York City		65.9	75.0	70.3
10. Chicago		60.6	70.8	65.5
11. Seattle		21.2	25.7	23.3
12. Detroit		26.5	31.8	29.1
13. New Orleans		77.8	78.3	78.0
14. Washington, D.C.		52.1	49.7	51.0
15. The Ozarks		23.9	29.9	26.8

TWO ESKIMO GEOGRAPHERS

DOROTHY TOSTLEBE THOMPSON
Cedar Falls, Iowa

One August day we met two Eskimos in the lonely and isolated Brooks Range near the headwaters of the Noatak River in Alaska, and proved, to our satisfaction, that two Eskimos, at least, had upheld the stories and claims that Eskimos were good geographers. We had been climbing the hills and panning the streams of this valley for six weeks before we met these two young fellows, the only persons we saw the entire summer.

Lured by matter-of-fact statements in an old United States Geological Survey bulletin that gold the size of pumpkin seeds had been found at Lucky Six Creek, a tributary of the Upper Noatak (Fig. 1), at the close of the last century, three of us, my husband, a friend, and myself, decided to try our luck fifty years later in this same region.

SCARCITY OF INFORMATION

Before leaving Nome we tried for months without success to find an individual who had been in this territory. A few of the old-timers thought they had heard of someone who had been "up that far," but it usually turned out that this "someone" had been only to the gorge of the Noatak which is not far distant from Noatak, the only settlement on the river and located near the mouth. We failed to find anyone who had first-hand knowledge of the country. From our two maps (United States Geological Survey reconnaissance map of Northwestern Alaska, 1930, and an air force map of the region) and the U.S.G.S. Bulletin 815, entitled, *Geology and Mineral Resources of Northwestern Alaska,* we gleaned the following information: that the country was high, and usually dry, tundra; that the valley had been glaciated; and that trees, with the exception of scattered willows and alders, were scarce.

Nevertheless, we chartered a plane and pilot, neither of which had been very far in that direction before. The plane, a 1929 Cunningham Hall bi-wing, was deficient in almost everything including speed. Contrary to CAA regulations, the pilot did not file a flight plan, "because I don't want them worrying after us if we get lost." And, we nearly did, at that, because neither his radio nor compass were in working order. For this reason, as well as for the fact that the pilot had never been over this area before, we charted the

course with maps spread over our knees the entire 290 miles to Shungnak, our "jumping off place," by comparing stream and lake on the ground to stream and lake on the map.

Alone Along the Noatak

When we finally arrived at Lucky Six, landing on a 450-foot rock bar because the motor "conked" out, we already had had one

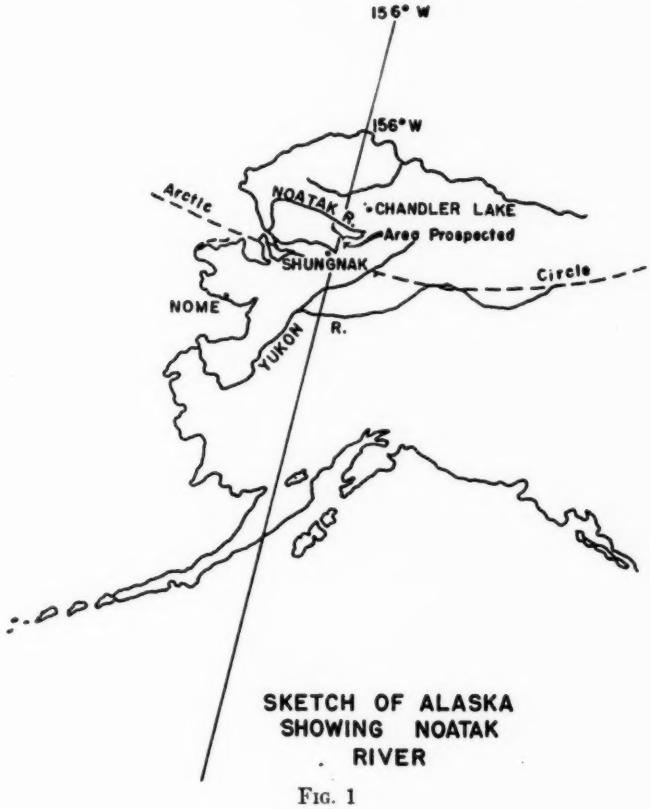

Fig. 1

plane crack-up 80 miles downstream. After our pilot had left us, we felt almost certain that we were the only persons in an area of at least 1,400 square miles, and probably many more. This tentative conclusion was based naïvely on the fact that the nearest marked cabin on the map was on the Alatna River (mouth of the Kutuk, 28 miles away), and the nearest settlement was 72 miles away over very rugged country.

It was with extreme surprise, when we looked across the river one morning (almost six weeks later and about 20 miles farther

downstream) that we saw an unfamiliar, small white object, quite distant from us on the sloping side of the mountain. Tho our eyes usually interpreted correctly every movement and change in our environment, my first impression was that it was a dislodged rock. We already had had two weeks of rain, sleet and snow, and the excessive moisture could have accounted for almost anything. However, it did not take me long to realize that it could not possibly have been a piece of quartz, as I thought, since most of the rock of this area were schists and granites.

Using our binoculars, we readily saw that it was a tent, but with no sign of life around it. When the tent had been pitched was beyond our knowledge, tho we presumed it must have been in the dusk of the preceding evening. Soon, after periodic peerings thru the glasses, we made out figures of two men, and then, not long after that, the figures of several dogs, rising to their feet, and walking around their stakes.

Two Eskimos

I was ready to start for a visit with our new "neighbors," but the other two decided that even in this enormous, isolated country, it might be better if we waited until they could perhaps complete their breakfast and any other chores around camp which might need attention.

We crossed the river upstream from our camp, tho it was very deep and swift even there, then crossed an arm of sticky mud which was filled with water during the occasional spurts of sudden high water, and began the always-longer-than-it-looks climb up the tundra covered hill. As we drew closer, the dogs grew louder and more excitable, and we could tell from their howls and wails that there were many more than the seven which we had counted thru the glasses. The two slightly built Eskimo boys came down the hill a few feet to meet us, their hands in the pockets of their old wool army pants, broad grins on their faces, but with not a word of greeting. Fourteen dogs behind them still growled and howled, but with a few words they were quieted before we reached the tent. We greeted the two with the well-worn phrase, "Do you speak English?" but they just grinned back. Turning to our companion, a part-Eskimo boy, the two Eskimos attempted some phrases in their language, but to no avail. Walter, as well as we, knew fewer words of the Eskimo language than, it turned out, they did of English.

FIG. 2. One of the Eskimos with his eight pack dogs traveling near the Noatak River, Alaska, about thirty miles from its headwaters.

Thru a combination of sign language, pidgin English, and the few Eskimo words we knew, we slowly pieced out the picture that they had walked from Chandler Lake in ten lazy days, a distance of some 150 roundabout miles, with their fourteen pack dogs and were hunting for wolves and mountain sheep (Figs. 1 and 2). How-

ever we noticed gold pans leaning against the side of the tent. We were particularly interested in the pack dogs, and I managed to get many feet of colored movies as they traveled the hills with their dogs, for this method of travel is becoming rare in Alaska and is found only among the most isolated groups. Altho our companion had lived almost all of his 24 years in Nome and Kotzebue, he had never seen pack dogs. These packs were made of caribou skins.

Our visit seemed to be at an end when our hands got tired and the words ran out, but we invited them "over" for the evening. As we were finishing our supper of pancakes we saw them descending the hills with the dogs making a mighty chorus behind them. When they arrived at the river, we saw them hesitate, look at the water, upstream and downstream, and then across at us. It was evident that their water mukluks (Eskimo boots), made from bleached sealskin, were not adequate for such an undertaking. Walter and my husband immediately pulled the tops higher on their rubber boots, waded across the shallower portion of the stream, and brought them on their backs to our shore.

Read and Supplied Map Information

It was after they had finished the rest of our pancake batter that we drew out our creased, and dog-eared maps from one of the packsacks, and laid them in front of our guests. They had been in the valley only once before, and, as far as we could understand, had never seen a map of this area. They became very excited when they saw all of the familiar streams marching themselves one after the other into the Noatak River on a piece of paper (Fig. 3). They would point first to this stream, and then that stream, finally pointing to the stream on which our present campsite was located.

When we had come into the valley, according to our map, we had landed almost exactly at the mouth of Lucky Six, thanks to our engine failure. Tho all of the sparse descriptions had fit the stream as we prospected it, I, for one, had always entertained a little doubt about it. However, that finger pointing to a stream said that we had calculated correctly.

We placed the older map, with many bare spaces on it, before them, and with appropriate gestures and a few drawings, they filled in much of the missing topography. When we asked them about their route to the valley, they did not hesitate to show exactly the route they had followed, and marked it out for us, deftly de-

FIG. 3. Studying and discussing the maps.

scribing with their hands or the pencil all of the hills, streams and vegetation along the way.

Darkness had come by ten o'clock in August in this mountainous area, so with regret we packed away the maps, and took the boys back again to their side of the river.

Altho they had been in the valley only briefly once before, they had remembered all of the important topographic features and read the map as if they had read maps every day of their lives. As we moved downstream, slower than they, we discovered, stuck into the top of a striking and anomalous clay hill on the tundra, a newly carved stick with their initials marked on either side of it. This return to the valley had been of enough importance to them to leave some memento of their visit.

THE NATIONAL COUNCIL AT WORK

Final Plans for Annual Meeting

As this issue of the Journal goes to press, final plans are being completed for the annual meeting of the Council at the Hotel William Penn, Pittsburgh, November 23-24. The preliminary program and announcements have been mailed to members by M. Melvina Svec, Secretary, and have appeared in the September issue of the Journal, pp. 257-259. The theme of the annual meeting this year demonstrates the ways in which geographic instruction contributes to an understanding of world relations. The first general session will consist of four papers concerned with geographic understandings in a time of crisis. Especially timely will be George B. Cressey's thoughts on "Oil and the Near East." The second general session on Friday afternoon will demonstrate the work being accomplished by Project Committees of the National Council. The third and last general session, to be held on Saturday morning, will present a discussion of principles and procedures in the teaching of geography. In addition, three sectional meetings have been planned for Friday afternoon. Two of these will be demonstration lessons held at the Cathedral of Learning. The third will be a panel discussion of "Physical Geography, Its Place in the Undergraduate College Program in Geography." This discussion meeting will be held at the Hotel William Penn. George J. Miller will give the address at the annual banquet, scheduled for Friday evening.

Meeting of the Executive Board

The Executive Board of the National Council will hold its annual meeting on Thursday afternoon, at the Hotel William Penn, beginning at 2 o'clock. Members of the Council who wish to suggest items for consideration are requested to send them to the Acting President so that they might be included on the agenda.

Our 1952 Meeting—Call for Papers

It may seem premature to many of you to be asked to think ahead to our 1952 meeting even before the 1951 meeting has been held! But, already your officers and others are at work on planning the program for the annual meeting of the thirty-eighth year. This is to be held next year on *August 6 and 7*, in Washington, D.C., with headquarters at the Statler Hotel. The meeting will be held just before the XVIIth International Geographical Congress of the International Geographical Union, August 8-15. The program will feature the teaching of geography in the schools and colleges of various countries, and in addition to the presentation of papers on this topic, the two-day meeting will include a symposium on Geography in the UNESCO program. The opportunities and responsibilities of geography teachers in furthering the aims of UNESCO will be discussed.

Members are invited to present papers. Those members who wish to present papers at the meeting are urged to contact Clyde F. Kohn, President-Elect of the National Council not later than January 1, 1952. The final program will be set by that date in order to have it appear in the May issue of the Journal.

If you plan to attend the meetings you are urged to make room reservations at some Washington hotel at this early date. The meeting will give us all—elementary, secondary, and college teachers of geography—an opportunity to meet and exchange ideas with teachers of geography from countries all over the world.

Bonus Publications

The National Council is at last realizing one of its postwar ambitions and objectives. New members of the organization, and old members who have recently renewed their 1951 membership have received bonus publications. The first of these was a map showing the principal commercial air routes of the world. The second is Professional

Paper 12, "A Selected Bibliography on Geography Education for Curriculum Committees." This second bonus represents the work of one of the Project Committees of the National Council, and was published in March, 1951. These bonuses have been made possible by funds set aside from Contributing Memberships, one of the post World War II Council innovations. It is the hope of the National Council that more of its members may find it possible to become Contributing Members. This can be done by sending a check for ten dollars to the secretary when your present membership expires.

GEOGRAPHICAL PUBLICATIONS

Gertrude Whipple and Preston E. James. **Eurasia and the Modern World.** Macmillan Company, New York, 1951. 376 pages, 77 maps, 228 photographs, index. $3.48.

This is the final book in a six-book series—"Our Earth and Man"—which is known as the Whipple-James Basal Geographies. This book is intended for use in upper elementary or junior high school.

The arrangement of the topics in this text is original and reasonable. It facilitates the development of concepts and understandings in logical order. There is a wealth of information included and it is written in an interesting way. The study helps are really *helps*. They are thought provoking and are an aid to both teacher and pupil as they provide self-testing materials. The maps and pictures for most part are clear and are much used in the textual and study help materials.

Facts (in table form) will be welcomed by all users of the books as also will be the pronunciation included in the index.

It would hardly be fair not to point out in this stimulating text, some errors that have been overlooked by the authors. With the few corrections suggested below together with some others, I feel I can heartily recommend this text.

These errors appear to be due to several causes:

1. Incorrect statements—
   p. 301 "The ore is dumped from the freight cars into the chutes." This should read—The iron ore is dumped from the freight cars into the bins and moves from the bins to the ships thru chutes.
2. Wrong ideas which seem to result from attempts to simplify:
   p. 35 "*warm weather* crops such as rubber, pineapple, bananas, etc."
   p. 65 "*cold weather* crops" (rye)
   p. 63 "cold air *standing*"
   p. 238 "*thin* population"
   p. 124 "use *plenty* of fertilizer"
   p. 245 "*stubble*, the stumps of rice plants"
   p. 244 "paddy rice must be kept *soaked* with water. . . ."
3. Inconsistencies—
   a. Regarding conditions for the growth of mulberry trees—p. 104 ". . . Mediterranean climate (winter-rain and summer-drought), which makes it possible to grow mulberry trees."
   p. 227 "With its warm moist climate, the lower Ganges Valley would be an excellent region in which to grow mulberry trees."
   b. Regarding productive area in Scandanavia—p. 141 "The Scandanavian peninsula is rugged land with dense forest except in the southeast."
   p. 148 "Almost three-fourths of Norway's area is not productive. Much of the highland is barren and almost useless. . . ."

4. Errors which appear to be due to lack of scientific knowledge by the writers—
   a. On p. 246 the following statement is found: "This prevents the tree from drawing up moisture and food from the soil thru the thin inner bark." This is incorrect. What happens is that water and minerals move upward thru the sap wood of a tree and food, manufactured in the leaves of the plant move downward thru the bark. When a tree is girdled (a ring of bark removed) the tree finally dies because food cannot reach the roots.
   b. On p. 248 statements show that the writers must be confused in regard to the processes of husking and polishing rice. One statement says "When it was discovered that eating rice which has not been polished prevents this disease, many oriental people stopped removing the husk." All rice must be hulled or husked before eaten by humans. It is the polishing process which removes materials necessary to the health of people who use rice as their chief food.

State Teachers College, St. Cloud, Minnesota ANNA C. LARSON

Anatol Heintz. **Svalbard, A Norwegian Outpost.** Bonniers, New York, 1951. 172 pages, 204 photographs. $4.50.

Svalbard is situated in the Polar Sea. Its chief part is Spitsbergen, an island group comparable in area to West Virginia, but in all other respects dissimilar from any part of the United States. The distance from North-Spitsbergen to the North Pole is less than ten degrees of latitude. If even the glaciers here, as in other parts of the world, are shrinking, most of the surface is covered by deep ice sheets. Only along the west coast considerable areas are icefree. A branch of the Atlantic Drift and currents of temperate air cooperate in making the sea off the west coast navigable from May to October.

In the eighteenth century Spitsbergen was a paradise for whale-hunters, and since then numerous polar expeditions have started from those barren shores. The first attempt to get to the Pole by air was made by the Andrée Balloon Expedition in 1897. In 1930 the remnants of this expedition were found on Kvitöya in the eastern part of Svalbard. The southern part of Svalbard, about ten degrees north of the Polar Circle, is the steep-cliffed Björnöya, surrounded by waters teeming with cod.

Svalbard has since 1920 been acknowledged as a Norwegian possession. Tertiary coals of good quality is the main product, and hunting and fishing are important occupations. Mining is going on all year round, and about 4000 people spend the winter in six mining communities. The mining center is Longyear, founded by an American, but now run by Norwegians. The output from three Norwegian coalfields is 5000 tons per year. Two thousand Russian miners are working in three mining districts run by the Soviet government. The bituminous coal from one of their districts is of carboniferous age, but inferior in quality. On the coal mined by the Soviets a royalty is paid to Norway, and every Russian pays Svalbard tax on his personal income!

Svalbard is a tourist attraction of the first order. The area is beautiful with snow and ice and mountain peaks, and in the long polar day pretty flowers create a blaze of color under the rays of the midnight sun. In the wealth of fossils from the rocks of Svalbard you may read most of the history of the earth.

This short account is based upon a description in the few introductory pages and in the captions for 204 excellent photographs, reproduced in Heintz, *Svalbard*. Both children and grown-ups will profit by reading this popular book and looking at the beautiful pictures. And the information, given by a Norwegian scientist, is correct and up to date.

Only one objection—the map at the end of the book ought to have been better reproduced.

Metropolitan School, Copenhagen JOHANNES REUMERT

BOOKS AND PAMPHLETS RECEIVED

Kenneth K. Landes. **Petroleum Geology.** John Wiley & Sons, Inc., New York, 1951. x and 660 pages, maps and diagrams. $10.

N. T. Mirov. **Geography of Russia.** John Wiley & Sons, Inc., New York, 1951. xii and 362 pages, maps and diagrams. $6.50.

Richard M. Pearl. **Guide to Geologic Literature.** McGraw-Hill Book Co., New York, 1951. xi and 239 pages. $3.75.

Albert N. Williams. **The Water and the Power: Development of the Five Great Rivers of the West.** Duell, Sloan & Pearce, Inc., New York, 1951. xiv and 378 pages, 41 illustrations. $4.50.

Harry Best. **The Soviet State and Its Inception.** Philosophical Library, New York, 1950. vii and 448 pages. $6.

Tom Gill. **Land Hunger in Mexico.** Charles Lathrop Pack Forestry Foundation, Washington, D.C., 1951. 86 pages, bibliography. $2.

Thomas R. Henry. **The White Continent: The Story of Antarctica.** William Sloane Associates, New York, 1950. xii and 257 pages. $3.75.

S. S. Balzak, V. F. Vasyutin, and Ya. G. Feigin. **Economic Geography of the USSR.** Macmillan Co., New York, 1949. xlv and 620 pages, 84 maps, 39 tables, 14 appendices. $10.

D. W. Perrie. **Cloud Physics.** John Wiley & Sons, Inc., New York, 1950. 119 pages, 29 photographs, charts, glossary, bibliography and indexes. $4.50.

Richard Joel Russell and Fred Bowerman Kniffen. **Culture Worlds.** Macmillan Co., New York, 1951. xvii and 620 pages, maps, diagrams, illustrations, tables, index, bibliography. $6.

United Nations: Demographic Yearbook, 1951 XIII 1. Columbia University Press, New York, 1951. 558 pages. $6.

R. J. Harrison Church. **Modern Colonization.** (Hutchinson's University Library Series.) Longmans, Green and Co., Inc., New York, 1951. x and 165 pages, 12 maps. $2.

Major Problems of United States Foreign Policy. Prepared and published by The Brookings Institution, Washington, D.C., 1951. xv and 479 pages, appendix, index, maps and diagrams. College edition, $1.50.

Walter W. Ristow. **The Services and Collections of the Map Division.** The Library of Congress Washington, D.C., 1951. 22 pages, illustrated. 40 cents.

C. A. Hartnagel and John G. Broughton. **The Mining and Quarry Industries of New York State, 1937 to 1948.** New York State Museum Bulletin No. 343, University of the State of New York, Albany, 1951. 130 pages.

Walter R. Ristow. **Three-Dimensional Maps: An Annotated List.** Map Division, The Library of Congress, Washington, D.C., 1951. ix and 43 pages. 35 cents.

Rachel L. Carson. **The Sea Around Us.** Oxford University Press, New York, 1951. vii and 230 pages. $3.50.

London Essays in Geography. (Edited by L. Dudley Stamp and S. W. Wooldridge.) Harvard University Press, Cambridge, Mass., 1951. xiv and 351 pages. $5.

C. E. P. Brooks. **Climate in Everyday Life.** Philosophical Library, Inc., New York, 1951. 314 pages, 34 illustrations. $4.75.

Rudolf Geiger. **The Climate Near the Ground.** (Translated from the German by Milroy N. Stewart.) Harvard University Press, Cambridge, Mass., 1950. xxi and 482 pages, 180 illustrations, bibliography and index.

Water Pollution in the United States. (Water Pollution Series No. 1.) Federal Security Agency, Public Health Service Publication No. 64, U.S. Government Printing Office, Washington 25, D.C. 43 pages, maps, illustrations. 35 cents.

Arthur N. Strahler. **Physical Geography.** John Wiley & Sons, Inc., New York, 1951. ix and 442 pages, over 500 illustrations, index, reference list. $6.

S. W. Wooldridge and W. G. East. **The Spirit and Purpose of Geography** (Hutchinson's University Library Series.) Longmans, Green and Co., Inc., New York, 1951. 176 pages, 10 sketch maps, index. $2.

J. Riley Staats and George E. Harding. **Elements of World Geography.** D. Van Nostrand Co., Inc., New York, 1951. vi and 378 pages, illustrations, index, bibliographies.

Ellsworth Huntington. **Principles of Human Geography** (sixth edition, revised by Earl B. Shaw). John Wiley & Sons, Inc., New York, 1951. xviii and 805 pages, maps, illustrations, index. $6.50.

Anton Postl. **Laboratory Experiments in the Physical Sciences.** Burgess Publishing Co., Minneapolis, 1951. 72 pages. $1.50.

Margaret W. Skillman. **Historical Geology Laboratory Manual.** Burgess Publishing Co., Minneapolis, 1951. 166 pages. $2.50.

George B. Cressey **Asia's Lands and Peoples.** McGraw-Hill Book Co., Inc., New York, 1951. 597 pages, maps, charts, illustrations index. $7.

Earl Mountbatten of Burma. **Report to the Combined Chiefs of Staff by the Supreme Allied Commander Southeast Asia 1943-1945.** Philosophical Library, New York, 1951. xi and 280 pages, 47 maps and charts. $12.

Renner, Durand, White, and Gibson. **World Economic Geography.** Thomas Y. Crowell Co., New York, 1951. x and 758 pages, illustrations, index. $6.

Conservation Education in American Schools. Commission on Conservation Education in American Schools (Kenneth E. Oberholtzer, chairman) AASA of NEA, Washington, D.C., 1951. 527 pages, illustrations, official records, indexes. $4.

The Book of the Year, 1951 Edition. Encyclopaedia Britannica, Inc., Chicago, 1951. 768 pages, index, illiustrations. $12.

John Hodgdon Bradley. **World Geography** (new edition). Ginn and Company, Mass. 1951. vii and 487 pages, illustrations, index. $3.72.

William Glenn Cunningham. **The Aircraft Industry: A Study in Industrial Location.** Lorrin L. Morrison, Los Angeles, 1951. xvi and 247 pages, 13 illustrations, 17 tables, index, bibliography. $6.

Encyclopaedia Britannica World Atlas, Encyclopaedia Britannica, Inc., Chicago, 1951.

Educators Guide to Free Films (11th annual edition). Edited by Mary Foley Horkheimer and John W. Diffor. Educators Progress Service, Randolph, Wisconsin, 1951. xii and 482 pages. $6.

Educators Guide to Free Slidefilms (third annual edition). Edited by Patricia A. Horkheimer and John W. Diffor. Educators Progress Service, Randolph, Wisconsin, 1951. v and 151 pages. $3.

David Greenhood. **Down to Earth: Mapping for Everybody** (revised edition). Holiday House, New York, 1951. 262 pages, illustrations, appendix, index. $5.

W. C. Allee and Karl P. Schmidt. **Ecological Animal Geography** (second edition). John Wiley & Sons, Inc., New York 1951 (first edition by Richard Hesse). xii and 715 pages 142 figures, bibliographies, index. $9.50.

E. H. G. Dobby. **Southeast Asia.** John Wiley & Sons, Inc., New York, 1951. 415 pages, 118 figures, bibliography, index. $5.

John W. Alexander. **Oshkosh, Wisconsin: An Economic Base Study.** University of Wisconsin School of Commerce, Madison, 1951. 72 pages, 18 figures. $1.15.

Elementary Teachers Guide to Free Curriculum Materials (8th annual edition). Edited by John Guy Fowlkes and Paul T. Cody. Educators Progress Service, Randolph, Wisconsin, 1951. 347 pages. $4.50.